

**Amendments to the Drawings:**

The attached replacement drawing sheet makes changes to Fig. 11 and replaces the original sheet with Fig. 11.

Attachment: Replacement Sheet (1)

**REMARKS**

Claims 1-4 are pending in this application. By this Amendment, claims 1-4 are amended for clarity. Further, replacement formal drawing sheet for Fig. 11 is filed herewith to add the label "Related Art" in response to the objection of the drawings. No new matter is added by the above amendments. Reconsideration of the application based on the above amendments and the following remarks is respectfully requested.

The Office Action rejects claims 1-4 under 35 U.S.C. §103(a) as being unpatentable over U.S. Patent No. 6,492,657 to Burlefinger et al. (Burlefinger) in view of U.S. Patent No. 6,671,411 to Satoh. The rejection is respectfully traversed.

Claims 1 and 2 recite an operation control part which operates each of said electron detection parts constituting the detection module based on an orthogonal modulation pattern. Neither Burlefinger nor Satoh, taken alone or in combination, teach, or can reasonable be considered to have suggested this feature.

The Office Action acknowledges that Burlefinger does not teach an orthogonal modulation. The Office Action relies on Satoh to cure this deficiency.

Specifically, the Office Action alleges that Figs. 1 and 2 of Satoh disclose an operation control part which allegedly operates each of the electrode detection parts constituting the detection module based on orthogonal modulation pattern. However, Applicants respectfully disagree that Satoh teaches or can reasonably be considered to have suggested, the feature of an orthogonal modulation as positively recited in claims 1 and 2.

Burlefinger discloses an electron flux amplifier wherein a microchannel plate (MCP) is monolithically formed with, or bonded to, a semiconductor amplifier for detection or imaging of electromagnetic signals of particular spectral characteristics such as infrared signals, visible light, ultra-violet. Satoh discloses a digital camera which generates a digital image data using a CCD where a compression encoding process is performed on the original

image data using a two dimensional orthogonal transformation (Satoh, col. 1, lines 19-26 and col. 6, lines 50-51 and 59-67).

However, the orthogonal transformation in Satoh is not an orthogonal modulation pattern as claims 1 and 2 recite because an orthogonal modulation pattern is, for example, a pattern that corresponds to each line of a Hadamard matrix. The Hadamard matrix is constituted by elements of “+1” and “-1”, and is a symmetric matrix in which the elements at the symmetrical positions along the diagonal line are the same. (See pages, 14, lines 24-18 for a general discussion). In Satoh, the orthogonal transformation coefficients are represented by discrete cosine transformation and are utilized for compression encoding sequence.

In view of the above, Burlefinger and Satoh, taken alone or in any permissible combination, do not teach, nor can they reasonably be considered to have suggested, the combination of all of the features positively recited in claims 1 and 2.

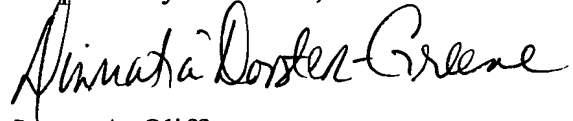
Further, claims 3 and 4 also would not have been suggested by the applied prior art references for at least their respective dependence directly or indirectly on allowable base claims, as well as for the separately patentable subject matter that each of these claims recite.

Accordingly, reconsideration and withdrawal of the rejections of claims 1-4 under 35 U.S.C. §103(a) over Burlefinger and Satoh are respectfully requested.

In view of the foregoing, it is respectfully submitted that this application is in condition for allowance. Favorable reconsideration and prompt allowance of claims 1-4 are earnestly solicited.

Should the Examiner believe that anything further would be desirable in order to place this application in even better condition for allowance, the Examiner is invited to contact the undersigned at the telephone number set forth below.

Respectfully submitted,



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JAO:DJG/mab

Attachment:  
Replacement Sheet (Fig. 11)

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